

# MOTD

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The International Newsletter of the OS-9 Users Group *July/August 1989*

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## Presidents Column

Greetings to all! Bill has asked me to keep this tiny and to the point (so we don't go into more pages), so I'll have much more to say next issue. It's not a good idea to buck the editor, anyway <grin>.

First, the new officers and appointees: Bruce Isted is Vice President. Bill Turner is Secretary, and George Dorner is Treasurer. Bill Brady has consented to continue his fine job of editing, and Eric Williams is the new librarian. I have also asked Dave Kaleita and Dale Puckett to continue on as Directors-at-Large, and they have accepted. In addition, I have appointed Bert Schneider (who was also running for President) as another such Director. Thanks to all of these fine men for volunteering!

We have a lot of neat things forthcoming, so hang in there! A user address index, BBS list, new disks, and especially the latest-breaking OS-9 news (and there's a lot). Please write to the Editor if you have any good ideas... we're all ears now. Take care, and see you next month!

Best - *Kevin*

## From the Editor

I have made two mistakes in a row with Computer Publishing Inc. aka South East Media (the 68 Micro folks). First, I messed up their Sculptor Ad, then I goofed on the review of Basic09 XRef that they sent.

Yes, although Applied Computer Technology wrote the program, CPI were the folks to send it to me and they are a main advertiser of the product. So please, get me outa hot water, someone order a copy from:

SouthEast Media  
5900 Cassandra Smith Rd.  
Hixson TN 37343  
Telephone 615-842-4600  
FAX (615) 842-7990

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## OS-9! OS-9 Macintosh! OS-9 Clone!

OS-9 Amiga! OS-9 Atari! OS-9 CoCo! OS-9 GIMIX! OS-9

We keep gaining momentum. Many of you have known for a long time that OS-9 has been available for the Atari ST and Mega ST computers. There is also OS-9 for the Amiga... from Australia. Now, thanks to Doctor Gibbs we have OS-9 for the Apple Macintosh computers!

First a side note. Many users think the the Users Group only exists to publish the MOTD and provide a S/W library. Well, it is much more than that! We continually work to help bring new products to the OS-9 community, to improve them, and to bring down prices.

A prime example of this happened on August 5th, 1989, when your editor (me), Dale Puckett, George Dorner, and Dave Kaleita all showed up at the Chicago Airport Hilton for the showing of two new products being introduced by Gibbs Laboratories - OS-9 for the Macintosh, and PC-68K OS-9 boards for IBM compatibles. (We were all there at our personal expense & Bill Gaffney of Microware was there along with some OS-9 VARs).

The Mac product, which was my main interest, was running on three Macs: A Mac II, an SE/30, and a Mac plus. Thus shown was the 68000, 68020, and 68030 versions. (Before going, Dr. Gibbs had shown extraordinary support for the UG by rushing a version for the Mac+ to me via Federal Express, which runs just fine here.)

The crew at Gibbs Labs has obviously worked long and hard preparing the products that they showed us. 18 months was the figure quoted, and I believe it. But more than that, these guys BELIEVE in OS-9, they are making it a main part of their business. (They do other things though, Gibbs Labs has been around since 1935.)

"We believe that OS-9 is the best...." said Matt Bezark as he introduced the Mac product. Matt is obviously one of us.

Lora, the event coordinator, expressed her desire to support and cooperate with the UG by placing a copy of the MOTD in every 'handout' package.

As time goes on, I will be telling you more about the Mac Product, and George the PC-68K.

But for now, a discussion of 'Ports' is in order. To date, all versions of OS-9 have been 'ports', meaning that they run

on the 'target' machine in native mode. This means that OS-9 is in total control of the hardware. This is true, for example, in the CoCo, where CoCo-DOS goes away completely. (I don't even have a DOS ROM in my CoCo).

Sometimes, programs such as DOS can be run in an OS-9 window. (Chris Burke has a product here), but OS-9 is in control.

In the case of the Mac product, OS-9 is running as a Macintosh application.... so the shoe is on the other foot. My initial reaction to this was "...you can't call that OS-9". But Microware calls it that so....

What we really have is an OS-9 'emulator' vs a true 'port'. But that's not really bad, as long as everybody clearly knows the difference. There are many advantages to this approach, especially on the Mac. (OS-9 Amiga is also an emulator.)

First, you don't have to do OS-9Gens, there is no complex installation procedure, you just drag some files into a folder somewhere and 'click' on OS-9 to run it. I think Gibbs is dead right in saying that this is the only way you can get a Mac user to run OS-9 at all.

Another advantage is that you can go back and forth between Mac and OS-9 applications.

Also on the plus side is that the Mac drivers are used. So, you don't need an OS-9 driver for an XYZ brand hard disk, since Mac hardware always comes with drivers.

But the Mac OS is still running... or is it? At best, the Mac OS only loosely controls things.. It always yields control to applications. (that's it's big problem).

VARs should know that there is the possibility that some of the 'real-time' capabilities of OS-9 may be compromised by Mac OS or driver functions. Mac INITs may be especially troublesome.

Also, there is always the possibility that the product may not run under say... Mac System 7, and an upgrade

Continued on Page 9.....

## Letters to the Editor

Weldy Moffatt

May 21 89

William L. Brady  
1503-I Flanders Lane  
Harwood MD USA 20776

Have just received the March/April issue of MOTD and like the format, typefaces and contents.

OS-9 is unknown here except to a few of us that have the Coco. Intertan has discontinued distribution of Color Computers placing a serious block in the way path of spreading the gospel of OS-9. MOTD does give us some information on what is happening and each issue that comes sparks some new interest. I subscribe to Rainbow and 68 Micro and enjoy reading them but find it costly or impractical to experiment with the programs and applications they cover.

I use MSDOS computers in the work place and an accounting application on a Unix system. I do a lot of work with databases and accounting for clubs I am involved with and found that portability demands that all the work be done with MSDOS applications. Too bad but compatibility is the issue here.

Keep up the good work. I use what I learn about OS-9 for demos at our computer shows to amaze those who are not familiar with it.



Weldy Moffatt #1430  
306 522-9938

*We need letters from folks that use OS-9 in commercial & industrial situations! (articles also) -ed*

1112 College Ave Regina Sask S4P1A8

Is it time for the OS-9 UG to expand its scope?

Every time I get my copy of MOTD I see evidence of a common growing pain.- lack of cash flow. I am going to ask the members to think about an idea that might help end the problem. By applying a little NON-artificial intelligence to the problem we may be able to get some results.

One of the biggest impediments to the popularization of OS-9 is the lack of effective advertisement. An even bigger one is lack of interest in writing high quality software for the system. If authors knew their creations would be installed and used correctly, a bigger selection of high quality programs would be available. Most people, authors included, will work at least as hard for a feeling of satisfaction (after a certain point) as they will for money. One thing is an absolute fact.- no one will spend any time at all on a project that yields neither satisfaction NOR money.

Our members are the very best source of information and expertise on OS-9 available in the whole world and that's a fact! Most of us started with poor documentation on level 1 systems where EVERY application required memory conservation. We have been forced to learn OS-9 the hard way. Could there be a better place to turn for help than to the OS-9 UG?

Now I'll get to the point. If we could show Hard/Software developers that there are folks available to help guide their customers, they may become more productive in the OS-9 field. If we had a group of

qualified members willing to donate their time to assist new customers set up their systems, we could allow a fact sheet on the OS-9 UG to be included with the packaging of new Hard/Software! The information sheet would include a brief history of the OS-9UG and ask for a cash donation (tax deductible?) in recognition for any assistance from our members. The donation could be shared with the member or contribution credits given to the member to be redeemed in User Group T-shirts, etc. If the idea has any merit we should up with more members, better software, and a cure for the cash flow problem!

I'll make a proposal just to get the ball rolling.-

Proposition: Poll our membership for qualified people willing to assist in setting up systems for new customers. For this assistance the customer will be asked for an appropriate sized donation to the OS-9UG. The services of the member will be recognized in some form.

Please give this some thought and give us your input for the proposition. I'm writing this in July 1989. If we are going to do this at all, let's try to get it in place before Christmas. It might work; it might not. What do you say?

Bernie E. Beshorse, #2115  
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1-907-225-1324

## Letter to the Editor

Box 395 RD 2#  
Pittstown, NJ 08867-9530  
(201)-735-8153  
May 26, 1989

MOTD

William L. Brady  
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Harwood, MD 20776

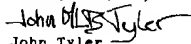
Dear Editor:

Pardon me, but has anyone else noticed this emerging pattern.

With the CoGo III, Tandy introduced Microware's OS-9 Level 2 and a windowed environment: MultiVue. Last fall, Tandy introduced the THOR technology (Tandy High-density Optical Recorder) as their gateway to a low cost optical disk drive. Microware has recently released Rave, a graphics application generator for generating MultiVue-like programs that fully exploit the power of an optical disk.

Put all of these together, add an Objective "C" compiler, and they become the home equivalent of Steve Job's NEXT computer (\$7000 at last price). If Tandy's smart with pricing they could blow the Wunderkind out of the water. Too bad they can't make the darn thing portable while they're at it; would be great for us students.

Hack it 2 bits,

  
John Tyler

LOONEY  
HO...SE

3406 Notre Dame Street  
Hyattsville, MD 20783

July 31, 1989

Bill, here's my reaction to Cave Walker. The exploration was somewhat cursory and the comments will, therefore, be brief.

Contents: 16 page instruction booklet, one 5.25" floppy disk formatted as an OS9 35 track single sided disk.

Comments: The booklet is well written and easily followed for both starting and for playing the game. The game may be played on either level one or two OS9 and may be used from a hard disk. Adequate instructions are given for either floppy or hard disk based systems.

The game is similar to the Donkey Kong eye-hand coordination games where an animated image is maneuvered through an obstacle course to capture treasures and avoid dangers. There is an easily read status section of the display to keep track of score, treasures, and strength. The obstacles are clever and create a level of difficulty that seems reasonable to this reviewer.

The objection I have to the implementation is that it does not take advantage of CoGo 3 graphics. The graphics are obviously written for the CoGo 1 or 2 and seem terribly primitive by today's standards. The colors are artifact style and the user is asked to tell whether the sky is blue or red (remember?), although the system is smart enough to take appropriate action based upon the user's response.

If this style of arcade game is enjoyable, then look for Cave Walker on a red tag day, but go slow if you are asked for the list price of \$24.95.

## UltiMusE III By Michael J. Knudsen

## A Review By Bert Schneider

**What If ... all CoCo music software programs were this good?** reads the front cover of the UltiMusE user manual. I'd like to rephrase that statement to say, "What If ... all CoCo software programs were this good?" Now let me get back down to earth and give you an honest opinion of what I think of UltiMusE III, the Ultimate Music Editor.

The objectives of this review are to give you, the reader and potential buyer of this software, an unbiased assessment of this pro-

gram to give this program a try. In fact, Michael Knudsen has a shareware version of this software available on Delphi, Compuserve, and many other electronic bulletin boards free for the taking! The commercial version is very similar to the shareware version (the music files created by both are even compatible). It has one basic difference....it is far better! Michael has included more bells and whistles and capabilities without degrading system performance. Get a copy of the shareware version (UMUSE) and then see for yourself.

their own electronic synthesizers which were not capable of talking to one another. MIDI therefore is a protocol designed to allow one MIDI device to send electronic messages (in the same manner your computer sends messages over a serial port via modem to another computer) to another MIDI device. These MIDI devices can range from keyboards (the most common) to other computers, to sound boxes, drum machines, or any combination. You can play an electronic MIDI keyboard just as if you were playing a piano or organ, or another

sound box will give you added musical instruments and a wide range of tones and pitches.

Now that you know what UltiMusE III is and what it can do, what is required to operate it? First and obviously you need a Tandy Color Computer 3 running the OS-9 Level II operating system and a MIDI device (some of which you can buy for less than \$120!). You should have an RGB monitor, although a good monochrome composite monitor will do. There is no need for color. I ran the program

# UltiMusE III



gram's capabilities, its potential, its ease of use and understanding, its good points as well as some of the not-so-good points. What I hope to accomplish is to give you a better understanding of what this software is all about. Sometimes it is hard to rely on the advertisement alone (although I must say that Second City Software has done an excellent job of including such things as system requirements and performance capabilities in their ad).

Perhaps the best selling point of any software is to see it in action. In this case, you must see and hear this program in action first hand. I guarantee that you will want to get into the world of MIDI (more on that later) once you have heard what wonderful melodies you can create with your Color Computer and minimal hardware. Even if you are already into MIDI, you will

First, what is UltiMusE III? UltiMusE III is a combination music editor and MIDI sequencer written by Michael J. Knudsen who is both an experienced computer professional and a musician. You can create your own music, copy music from sheet music, load previously saved music files, and save new ones. You can then play music on any MIDI device using your CoCo and a simple two wire serial cable which you can even build yourself. If you have no interest in MIDI or music, then this program is probably not for you. However, you don't have to know music to use UltiMusE III (it couldn't hurt).

What is MIDI? MIDI stands for Musical Instrument Digital Interface. Several musicians and electronic wizards got together one day and decided to work together instead of designing and building

er MIDI device can tell the keyboard which note to play, how fast, how soft or loud, and how long to sustain it. This device is referred to as a MIDI sequencer and that is what UltiMusE III functions as in the PLAY mode. (If you want to know more about MIDI then I suggest you contact a music dealer nearest you or check your library or book store for information about MIDI. There are even magazines dedicated to MIDI such as Music & Computers. See their May/June 89 issue for a good background on MIDI and electronic music.) One of the nice things about MIDI is that it is modular, meaning you can add to it piece by piece. Not only does this make good design sense, but it is much more economical if you can stretch out the price of your equipment over a long time. If you do have the money or have access to a sound box, I highly recommend using it with a keyboard. A

using a monochrome composite monitor, a monochrome RGB monitor, as well as a color RGB monitor. I was able to run the program without any problem in all of those conditions. You must have a mouse or joystick and at least one disk drive (more than one drive is recommended ... and you can use single sided, 35 track drives with this program!) UltiMusE III will allow you to use either the standard joystick ports or Tandy's Hi-Res adapter. I was able to use the standard joystick port without any problem and the mouse movement was fine. As a matter of fact, UltiMusE III does not require the new two-button mouse. You may use either mouse or joystick, depending on your hardware configuration and taste. The program works fine with either. You can, of course, use the keyboard mouse (pressing

CTRL and CLEAR, and then using the arrow keys and F1 for the button).



Beyond that the only other item this program requires is a serial cable (instructions are included in the manual for building your own if you wish) and additional memory beyond the standard 128K of RAM in the CoCo III. You need 512K of RAM to run this program. The manual states that UltiMusE III will work with 256K of RAM via Burke & Burke's Quarter-Meg upgrade. [A side note: for those of you who only have 128K of RAM and want to get into more serious software you should buy a RAM upgrade as soon as you can. If you want to do any serious multi-tasking at all, you are going to need the memory.] The serial cable plugs into the "bit-banger" port or you can use a hardware MIDI-pak. Your first impressions might not be too good if you hear that UltiMusE III uses the bit-banger port but hear me out for a second. The "bit-banger" port is not an efficient serial port since the CPU has to generate all of the delay loops required to transmit data at such slow speeds as 300 baud or so. However, MIDI data is sent at a rate of 32K baud! That's right, so now the delays associated with the "bit-banger" are extremely short.

#### What comes with UltiMusE III?

First there is the disk which a single sided, 35 track disk formatted for OS-9. There is no boot on this disk. This is important. You must already own a copy of the OS-9 Level II operating system. Until an agreement can be worked out with Tandy and Microware, all OS-9 software developed by third-party sources will have to keep delivering software this way. It would be nice to just put the disk into your system and boot up the application. This is something that all software vendors of OS-9 must live with for now. However, there is an excellent "Getting Started" sheet that describes in detail how to make a backup of your disk, preparation, how to copy music scores to your working disk, how to delete music scores, and setting up UltiMusE III. On the disk are the necessary files to run UltiMusE III. There are the executable files UltiMusE III, FRAN, and PLAY, along with drivers for hardware MIDI interfaces. There is a directory of all of the graphic images required for the display and a directory of musical scores ready for you to load and play. A user manual along with a bug fix list is included and I'll go into that in just a little bit. The latest version software is 3.4.1. Those folks who have already received earlier versions have received or will receive the latest version due to several bugs that have been cor-

rected. All owners of UltiMusE III (even those earlier ones whose disk had to be upgraded to 3.4.1) will receive a free major upgrade disk that is forthcoming!

#### Is the manual any good?

The UltiMusE III manual covers everything from system requirements, definitions, a discussion of each menu, hints and tips, how to make your own cable, and a troubleshooting guide. I once knew of a gentleman that was an avid Macintosh owner and distributor who stated, "If you need to read the manual then the software is no good!" What he says is pretty close to how I judge a piece of software as well. What he is driving at is the Man-Machine interface. Certainly UltiMusE III is a very friendly, point-and-click, menu-driven, window-oriented kind of program. And having already grown accustomed to the shareware version, I pretty much knew how to operate the program. The overall layout of the program is very intuitive, but there are certain menus that are not, especially if you are not familiar with MIDI. This is where the manual is very helpful. For those old-hands at MIDI, I feel that you can pretty much use the software without having to read the manual. If not on the other hand, I would recommend sitting down and reading the manual. It is 45 pages long, includes an addendum, and even has an extensive index!!! This is perhaps the best feature of the manual, and if you don't read anything else, at least look at the index. Mike told me he used Dynaform and a little OS-9 redirection to create that index. (There are several MSDOS programs out there that create indexes that cost Megabucks!! - another reason for using OS-9 - flexibility and low cost!)

What is the system performance like? There are two parts to this question. There is the "how does it feel" type category for the editor and there is the performance (no pun intended) of the music sequencer portion. First I'll go into some of the features of the editor and then discuss the sequencer.

UltiMusE III allows you to write and edit sheet music onto a 640 x 192 graphics screen (the shareware version used 256 x 192 pixels). The buffer has a 9000-note memory which can go a long way if you include repeats and Da Codos. The next major upgrade will include a virtual memory storage capability of 32000 notes! A wide pitch range is supported: from four octaves below Middle C to over 3 above! An important point here is that if your MIDI keyboard has only 54 keys, then that is the range of notes you will hear. If you want to hear a wider range of notes then you need a

MIDI device that can handle that range. I use a 76 key, (full size) Yamaha Clavinova. It has eight different types of pianos from standard, to harpsichord, to vibes. In the future I plan on purchasing a sound box and a drum box to allow my computer to play a multitude of other instruments as well.

The editor supports almost every form of standard musical notations. There is no need to speak 'computer' to the computer. You can enter music into the machine just as if you were writing the score yourself like a musician. It supports the following: repeats; 1st, 2nd, and so on type endings; DS al Fine and Codos; multiple staves; double-dotted notes; triplets; ties; chord groups; stems up and down; all types of accidentals (sharps, flats, etc.). In other words, if you are a musician and not a computer wizard, you can use UltiMusE III to help create your own musical scores, or to enter in existing sheet music.

You have available at your disposal up to 16 different voices, meaning you can have up to 16 different instruments playing if you have the MIDI hardware with this capability. You can work on one part at a time, or all of the parts at the same time. The manner in which you enter music is done by selecting a note, rest, or some other musical notation from a palette of images on screen. Then just place the note where you want it (which staff and where on the staff you want it). You do this with verticle mouse movement. By moving the mouse left or right, you can make that note a sharp, flat, double-sharp, natural, or whatever. UltiMusE III automatically adds in additional rests in order to keep the number of beats in sync with the time signature. Always, you are in the overlay mode of editing since timing is critical. If you were to have the option of inserting notes, then you would have to figure out how to get the timing back in sync. UltiMusE III handles this for you.

If you are just starting out with an entirely new musical score, you will want to use the LAYOUT menu. This was the last improvement made by Mike before going commercial with his program. Ultimately in future versions all of UltiMusE III will have the look and feel of the LAYOUT menu. Unlike some of the other menus, this menu is totally mouse driven. Meaning no keyboard entries are required except for maybe time signatures. All other menus can be selected either by pressing the first letter in the menu name or by using the mouse. Once you have selected the menu, you must enter the next entry in via the keyboard. Future version may per-

haps make these menus totally point and click driven.

After you have entered in a musical score you may then go to the MIDI menu to select which voices are patched into which MIDI channel, the speed, and transposition. At any point in the score you may also change the loudness (Forte, Mezzo Forte, Fortissimo) and softness (Piano, Piu Piano, Pianissimo). These all can be set to control the volume of the notes. You can even go in and tailor your volume levels (by using numbers from 0 for softest to 127 for the loudest). There is also a DEBUG feature in UltiMusE III where you can speed up or slow down the piece as it is played in order for you to get through a certain part faster or to slow it down to hear mistakes or errors. You can also play only a certain "block" if you don't want to listen to the entire score. And there is a trace function that prints out the key signatures and measure numbers as the score is played. This is great for trying to find out where that one note of discord is.

#### The performance during the PLAY mode is fantastic.

I have heard several musical scores played on the CoCo before using multiplexing techniques and the CoCo sounded like a toy organ. Neat, but not musically appealing. One thing that bears mentioning here is that not only did UltiMusE III and my CoCo III make great music together, but I was able to multi-task while playing musical scores. As a matter of fact, I wrote this article while listening to several scores played by UltiMusE III. The only time I noticed a slight pause when I went to another window under Multi-View. Even when another program accessed the hard drive the score did not slow down (a standard floppy drive controller would stop everything, but a hard drive transfers data faster than the CoCo can handle it!) Try to do that with an IBM (even if you could, it would cost Megabucks). One reason UltiMusE III can perform so well is that its system priority is changed to a higher number upon execution. This makes sure that it gets more CPU time than any other process. UltiMusE III is set to 140 and FRAN is set to 160 while everything else is usually at 128. However, during any delays where nothing is played, UltiMusE III is put in the "sleep" mode. This allows other processes to use available CPU time and thus explains why you can multi-task with such a program even with the "bit-banger" serial port!

**Now for the PROS and CONS of UltiMusE III.** First the PROS: I



would say at the top of the list the best thing about this program is that it runs under OS-9! OS-9 is a total environment for a computer operating system. If you bought a MIDI program that ran under RS-DOS - you would be limited to running only that program and would not have the flexibility to use it with any other RS-DOS program. Plus you probably could not run in a multi-tasking environment either (not to mention that RS-DOS lacks any decent file management). Second on the list of PROS is its cost: it is very inexpensive. At \$54.95, you get a program that is well worth several hundred dollars (some as much as \$400 - \$500). Or you could buy a Kurzweil piano and spend \$17,000!!!!

**Another big plus is the graphic interface.** Unlike some MIDI editors for the CoCo, you don't enter in numbers for notes. UltiMusE III handles all of that for you. Since the graphic music editor is a "what you see is what you get" type of interface, anyone can enter in music from sheet music, anyone. Even if you don't have any musical background. You can do two things to get your system performing. You can either enter the notes from sheet music or you can download or copy from disk musical score files already entered in by someone else. There is a large database of UltiMusE files starting to appear on several boards throughout the U.S. It will only be a matter of time before someone develops a data translation program to convert between MIDI scores for another machine to .UME files. Note entry is very simple. Just select from a palette of notes or rests or just click on an existing note to change your current note's value.

Another plus is the index in the manual. When in doubt, look it up. There aren't too many third-party vendors that can boast a professional manual like this one. Another big strong point is that Mike used the default drive pathname "/dd" instead of "/d0". This is good news to hard drive users who hate to patch code to get their program running. He also put a configuration file into the program to allow you to save such settings as use of the Hi-res adapter, color settings, etc. This saves you having to answer the same questions over and over again every time you start the program up.

**Perhaps one of the best points of this program is its speed. It was written in Microware C and is fast.** Even the graphic screens are created and re-created with lightning like speed. Several programs are available in the market today that just don't respond

quickly enough to user inputs. This capability alone can turn a person on or off about a program.

#### Now for the not-so-good points.

Most of these points don't detract from the overall program, but could be made better and some will be made better in future versions. First, if you try to use the "goto" menu and go beyond measure 127, you can't. This is a known bug and will be corrected in the next major upgrade. Also, I found it extremely difficult to add new bar lines. It could be done, but it took some work. Fortunately you don't have to do this much. The print function only prints out one screen at a time and only to a Tandy type printer. Really this function is not needed if you are only going to enter in a score from sheet music or just download a file from a BBS. However, it would be a nice feature to have if you are creating an entirely new score from scratch.

#### Another minor inconvenience is that UMusE III runs under the old VDG type 1 window.

That means, guess what, that it won't run under Multi-Vue. Don't fret, later in this article I have a program developed by Toby Farley that I modified allowing it to work under Multi-Vue. Another minor inconvenience (notice I call these items inconveniences - they are not bugs, just my feelings on what could be improved in the program) is the graphic image files are located in a directory called IMAGES. This pathname is hard-coded into UltiMusE III and FRAN to be located in the root directory. Most hard drive users will agree that they don't like to keep adding files to the root directory. That is why you have a hierarchical file system such as the one in OS-9. Never fear, I also have a patch for that as well. I like to keep these type of files in what I call my miscellaneous directory or MISC. That way, they are out of sight and out of mind. They are right where I need them but yet they don't clutter up my Multi-Vue screen. In other words, the program knows where to get the data files. I don't need to know. I changed the path "/dd/IMAGES" to "/dd/MISC/I". There was just enough room in the program for this change. I must warn you that if you patch your programs, they may be incompatible with future versions. Always keep your original disk in its original condition!

A few other minor cons with UltiMusE III was the fact that it is not totally mouse driven yet. Future versions will take care of this feature. Actually, the program is quite fast even with keyboard entry. About the only other thing I can say bad about this program is how

much sleep I lost. As soon as I got ahold of this fantastic program, I couldn't stop! With headphones attached to my keyboard, I could stay up all night doing "neat things" with my computer and MIDI keyboard. As a side note, Mike has a disclaimer in his manual which reads, "Neither the author nor the vendor can be held responsible for any damages, direct or consequential, arising through use or misuse of this program or its documentation, including lost sleep, divorce, missed deadlines or blown gigs. The user is cautioned that MIDI music hacking can be even more addictive than either computers or music alone." Computer Widows, watch out!

Here is a recommended approach on how to get UltiMusE III to work under Multi-Vue and a hard drive (if you have one). First, get your directories set up as follows:

```

      /dd
      |
-----|-----
|CMDS| |MIDI| |MISC| |DEFS| ... etc
|-----|-----|-----|-----|
|          |          |          |
|aif.ume| |SCORES|
|-----|-----|-----|-----|
|          |          |          |
|CLASSIC| |ROCK| |POP| |JAZZ| ...etc

```

Your AIF should be set up (assuming your icons are located in the directory "/dd/CMDS/ICONS"):

```

umuse
/dd/cmds/icons/icon.midi
0
1
40
24
1
0

```

You can use just about any icon you want (several are on Delphi or you can create your own). The files that are in the IMAGES directory should be all copied into the /dd/MISC/I directory.

Next patch UMUSE3 with the following bytes:

address	old value	new value
5E13	6D	69
5E14	69	6D
5E15	73	61
5E16	63	67
5E17	2F	65
5E18	69	73
5E3A	6D	69
5E3B	69	6D
5E3C	73	61
5E3D	63	67

5E3E	2F	65
5E3F	69	73
7D87	B2	81
7D88	8B	AA
7D89	4D	63

Next, patch FRAN with the following bytes:

address	old value	new value
0A4C	6D	69
0A4D	69	6D
0A4E	73	61
0A4F	63	67
0A50	2F	65
0A51	69	73
1987	4D	49
1988	49	4D
1989	53	41
198A	43	47
198B	2F	45
198C	49	53
5F14	80	EB
5F15	97	F5
5F16	BA	B2

The last three bytes of each sequence are the CRC values. Use modpatch to change all of these values. Now, to get UltiMusE III to work under Multi-Vue, I have used a small C program that changes any window into a type 1 window (VDG screen), makes sure the input and output is through this new window, changes the working directory to "/dd/MIDI/SCORES", and executes UltiMusE III. All you have to do is point and click onto the icon and presto, you now have UltiMusE III working within Multi-Vue. Press CLEAR and you're in like flint. Here's the code:

```

/* umuse.c
Original program written by
Toby Farley
Modified by Bert Schneider
Loads UMusE3 and starts up in
VDG type window
*/

#include <os9.h>
#include <modes.h>
main (argc,argv)
int argc;
char *argv[];
{
struct registers reg;
int n=2;
int path;
char buff[32];
char line[80];
path=open("/w",2);
reg.rg_b=SS_DEVNM;
reg.rg_x=buff;
reg.rg_a=path;
/* get name of window just
opened */
if (_os9(I_GETSTT,&reg)==0)
{
/* if high order bit set turn
it off */
if (buff[2]=='S')
buff[1]=(buff[1]^128);

/* if high order bit of third
character set */
/* turn it off and increase
the count of */
/* characters in the window
name */
else
{
buff[2]=(buff[2]^128);
n=3;
}
}
/* close window */

```

```

close(path);
strcpy(line,"xmode /");
strncat(line,buff,n);
strcat(line," type=01");
/* change window to a VDG
screen */
system(line);
strcpy(line,"(chd /dd/midi/
scores;umuse3");
/* if any arguments then pass
them on */
if (argc>1)
{
strcat(line," ");
strncat(line,argv[1],findstr
(1,argv[1],".")-1);
}
strcat(line," <>>>");
strncat(line,buff,n);
strcat(line," ; xmode /");
strncat(line,buff,n);
strcat(line," type=80&");
/* fork a shell to start ap-
plication passing any */
/* data file name that was
passed to this program */
/* on to the application also
make provision for */
/* restoring VDG screen to a
window */
system(line);
}

```

### Who is UltiMusE III good for?

Well, just about anyone. The experienced musician and novice alike will enjoy and thoroughly use this program. It is an excellent tool for teaching music as well. There were countless times when I was taking piano lessons where I wish I could have heard the musical score played before I learned to play it. The brain picks up a great deal more that way. One of my old teachers use to play the piece for me, but after she left, it would have been nice to hear it played again. UltiMusE III can be a source of entertainment and at the same time can be an important tool in the creation of new scores.

### In summary, I must say that this is one of the finest programs I have ever used.

It adds an entirely new dimension to computing. Just when you thought you have seen everything from new word processors to graphic editors, to spreadsheets, and data base routines, out comes a fresh new approach to computing. This program will provide you with hours of enjoyment as well as a useful utility. Everyone knows that computers, mathematics, and music are all interrelated. Now you too can enjoy this fascinating facet of computing only recently made available by modern technology and of course, folks like Michael J. Knudsen!

### UltiMusE III \$54.95

**Available from:**  
**Second City Software**  
**P.O. Box 72956**  
**Roselle, IL 60172**  
**(312) 653-5610 Voice**  
**(312) 307-1519 BBS**

### From the Editor Continued from page 1

Basic09 XRef is only \$39.95. with enough source to customize the program and \$79.95 with full source.

BTW, I recently used XRef to track down two buglets in Wiz Pro. It took me minutes vs maybe an hour without xref. Basic09 XRef "is" a necessity for Basic09 programmers.

All kind of things are going on in the OS-9 world. I wish I could pass more on, but I am out of space in this issue plus there are some things I cannot yet reveal.

Microware tells me there has been interest in porting Rave. They have shipped several copies. They have also completed a port of the 'Smart' package. We saw it run in Chicago. (see OS-9 Mac).

There are persistent rumors of an OS-9 Port for IBM 386 machines, and a graphics interface for OS-9 Atari. Possible....Possible.....

FHL finally came out with a newsletter, and is shipping 'The Eliminator'. FHL is also working on memory upgrades & a graphics board & interface for their products.

I cannot overstate how much impact your letters are having right now, both the ones we publish and others. WRITE!

Next time I hope to catch up on hardware stuff. & Kev. ya got your swim suit gal!

The OS-9 Users Group is an international non-profit educational organization devoted to exchanging and distributing information about, and public domain software for, all available versions of the OS-9 Operating system. The OS-9 Users Group is the only independent group officially recognized by Microware (the developers of OS-9) as an official voice of its users.

The OS-9 Users Group periodically publishes the 'MOTD' which contains many useful articles, software listings, and other information helpful in keeping OS-9 computing enjoyable and rewarding. Other membership benefits include free technical help referrals (by mail or electronic BBS) and significant discounts on the purchase of individual volumes of the OS-9 Users Group Public Domain Software Library. One year memberships in the group cost \$25.00 for in-

**Date: 04-Aug-89 16:22 EDT**

**From: George Dorner**

**Subj: Dibble Review**

**OS-9 INSIGHTS**

**An Advanced Programmers**

**Guide To OS-9/68000**

**Peter Dibble, Microware**

**Systems Corporation, 1988**

There's almost no reason to review this book. It's enough to say, "If you want to know more about the inner workings of OS-9/68000, buy this book." After all, where else will you find ANY information of this kind, other than spending hours of digging, many phone calls, and lots of guessing and experimenting. Add to this the fact that the book is written in a clear, personal-but-not-too-chatty style and contains almost 350 pages, including many C program listings, and you have a book which will even be worth the \$40 Microware is charging.

I guess we wouldn't have expected anything else -- **an excellent book by Peter Dibble**. Peter is well-known for his early columns in 68' Micro Journal, as the one-time veep of this organization, from his frequent support of OS-9 on various information services, as the co-author of two good books on OS-9 for the CoCo, and as one of the very few OS-9 buffs with academic credentials. (I guess we wouldn't have expected anything other than that kind of price from Microware, either.)

## Mini-Review: OS-9 INSIGHTS

**The book is patterned after the parallel material in 'The Complete Rainbow Guide to OS-9'**

**by Dale Puckett and Peter.** Of course, the philosophy and structure of the 6809 and 680x0 versions of our favorite operating system are similar, and some of the earlier book carries over without much change. Peter advises programmers who don't want to adjust or extend the operating system to read the first 17 chapters. This part of the book covers the use and philosophy of modules, memory and its management, processes, events, traps, I/O, pipes, interrupts, file structure and management, device descriptors, and some customization approaches. The first 17 chapters make up less than half of the book's content.

The remainder of the book is composed largely of C code with varying amounts of comments and amplifying text. These chapters are 'A Simple File Manager', 'Adding a New Device Driver', 'Sample SCF Device Driver', and 'Sample RBF Device Driver'. The 70-page appendix, 'Building a File Manager', is commented code for a file manager which can read and write PC-DOS disks. Peter says it is "somewhere between a simple example and a serious tool."

Do you want/need this book? The book reviews itself. That question should answer itself from this short review.

**- George Dorner**

## The OS9 Users Group....

dividuals and \$150 for companies (corporate membership) and includes a subscription to the MOTD newsletter, one free disk of public domain software (archive set of entire Library for corporate members), and the right to purchase additional disks of software at a very reasonable cost. The group's public domain software library currently has over 56 individual volumes of software comprised of almost 300 individual programs. The library is constantly growing due to the group's policy of sending one volume (disk) from the library free for each individual program donated by a member. (note, although UG software is available from other sources, only MEMBERS receive the latest, and librarian maintained versions).

To join the OS-9 Users Group, fill out the application form reproduced on page 13 (or facsimile thereof) and send to the UG Tampa

address.

After you join, you will receive a copy of the "MOTD", and soon after that, the "starter" diskette. UG Library Volume #0, with software of the type useful in getting you started with both OS9 and the Users Group. Current members who renew their membership will receive a UG "donation credit" post card, which may be redeemed for most UG products and services at any time during your membership.

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**REVIEW: WINDOW WRITER****by: Bernie E. Besherse**

I was so impressed and full of hope when I read in RAINBOW of a great, new word processor for LEVEL II on the CoCo-III. But then, I'm always hopeful. That's why I've tied up a small fortune in programs and hardware for my five computers! I took advantage of a special, introductory offer on both WINDOW WRITER and DYNASPELL and got them both for only \$74.00.

After much frustration and many, many sessions with the WINDOW WRITER manual, my OS-9 manual, and the RAINBOW Guide to OS-9 Lvl 2 I finally got WINDOW WRITER to operate correctly, I think. I've been around OS-9 for several years now and I'm still an amateur but other than my first attempts at trying to make a workable BASIC-09 disk I've never had so much trouble with a piece of software. I finally succeeded in making workable disks by formatting some 40 tr DS/DD disks, using DSAVE instead of the BACKUP utility on the BOOT/CONFIG/ BASIC09 and the WINDOW WRITER disk and then (using CONFIG) building a modified bootfile that included the /R0 ramdisk supplied with the program. There was a lack of clear information on which directories get which files that caused me to spend three nights (until 4:30 AM) and a phone call (at daytime rates from Alaska to Pennsylvania) before the problems were resolved. I got a little information over the phone and a promise of a return call the next day. I'm still waiting. With the hints I did get from OWL-WARE on how to decode the manual I had a great deal more success. The bad impression still lingers, though, when I have trouble decoding documentation for a program. For about a week I had been feeling that I was the butt of a bad, expensive joke. Since I'm using WINDOW WRITER to write this article, I'm confident I've finally installed it correctly. Now, -- What's it like?

**WINDOW WRITER is a mouse and/or control-key driven combination text editor/formatter.** The author was kind enough to include the control key combinations in the mouse menu so you can quickly learn to avoid using the mouse for things that take your hands away from the keyboard. Wouldn't it be nice if all authors were so thoughtful?

Directories are changed, files are opened-closed-merged, the clipboard is saved and viewed, editing, formatting, words & phrases are

searched & replaced, print styles are inserted-deleted-stripped, and complete on-line help is available from the menu bar and selected by mouse. You can even change back and forth between EPSON, OKI, IBM, & TANDY printer code tables by menu! When I get my DESKJET+ I'll be able to modify or build an appropriate table and just add it to my SYS directory. I'll call it JET\_TABLE. Desk\_table just doesn't sound right!

For a mouse-cursor WINDOW WRITER uses a green ASCII block character instead of an arrow. It is distracting at first but I came to like it because it is easy to find. Incidentally, WINDOW WRITER has the smoothest mouse action of any program I've used on the CoCo up to this time. I use an old, one button mouse but the action is supposed to be even better with the newer, two button mouse.

WINDOW WRITER uses an 80 col by 22 line text window, the top line is a MENU bar, and the bottom line holds the status info. The status line not only keeps track of page number, line number, column number, insert/overstrike mode, wordwrap on/off, and file name but can be used with the mouse to go to a new page or line, and toggle insert and word wrap. You can also start a new document by clicking on the file name. Very nice! It would also be nice if you could rename the present document with a click on the file name, but maybe that's like asking for an extra 1/4" of frosting on your cake! The MENUS all work just like you want them to but some of them require extensive reading of the manual to understand, if they are explained at all. Again I have mentioned documentation.

**PET PEEVES & SUGGESTED IMPROVEMENTS:**

Number one is documentation. What there is of it rates an OK but it assumes that the buyer is already a master of OS-9. Take the command RAMDISK for instance. Although mention is made (once) that you can type the command

```
load /dd/cmds/ramdisk
```

It is ONLY mentioned when discussing the creation of new boot disks for 512K systems. There is no other mention of where to put this command ANYWHERE in the manual. Another thing that would be nice would be a better description of how to customize the color selection. I use an RGB-I monitor

(priced right and it works) that would benefit from a deeper black background. The listing of the environment file (user customizable) is included in the manual but little is written and much is assumed about the user's ability to modify it. Even a reference to a page number in the OS-9 manual would help.

The documentation would be much improved with a "menu tree". There are commands accessible by menu that either are not mentioned at all in the manual or mentioned with absolutely no description of how they work. The best example of a large, involved "menu tree" that I know of is in the documentation for SUPER ROM for the TANDY laptop computers.

An insert to the present manual with the recommended minimum commands in the CMDS directory (and other recommended directories and files) on one side and a "menu tree" on the other would be simple indeed. It would also be the minimum a company should be willing to do to send such a sheet (maybe 50 cents third class) to all their customers. It would go a long way in rebuilding the customer confidence lost by the lack of these items in the first place.

Most of the problems I had with WINDOW WRITER were with the inadequate manual so that should tell you the program itself is really good. Well, actually, its GREAT! I do, however, have several other serious bones to pick with the editor.

For some reason, whenever the text is realigned the spacing between sentences is reduced to one space. We were all taught in the first grade that we should leave more space between sentences than we leave between words. In typing class we were taught to use two spaces. It takes a lot of additional work to be able to use this otherwise great word processor because of this handicap alone. It is embarrassing for me to display work that has only one space between a punctuation mark and the beginning of the next sentence. It makes the work look less than professional and only the very best is good enough for my friends. Is there a possible patch? Most likely. Since WINDOW WRITER appears to be written in BASIC-09 there should be a simple procedure to check the number of spaces following a terminal punctuation mark and if the number is two or less then leave it alone. It could be merged into the program somewhere and solve the problem.

A second pet peeve is the lack of visible end of line markers. With some word processors it is always active; with others it can be toggled, but all good word processors have them. When editing a startup file, for instance, extra spaces can cause an errors. The extra trailing space is immediately obvious with a visible EOL marker. Another annoying thing I found with WINDOW WRITER was that it didn't return the screen and memory to their original status. Regardless of the color you use for your working screen, when you exit WINDOW WRITER the screen remains black with white letters. It also refuses to unlink from memory some of the modules it uses. Not only are they not unlinked automatically, they can't be removed from memory by any method I've found! This is very rude behavior for a program used on a multi-user, multi-tasking system. I get around the problem now by re-booting with another disk, but what will happen when some hired help is proofreading a book I have in the works and I want to do some spreadsheet work on /T2?

**CONCLUSION:**

WINDOW WRITER does have a lot going for it, no kidding. Its shortcomings in documentation can be overcome easily with a single sheet inserted into the documentation. A clear, concise summary of control code commands (command card) would also be very useful. If OWL-WARE can come up with retro-fit patches to correct the above mentioned faults they'll have a winner! Since I already own WINDOW WRITER I'll continue to use it and hope for the patches, but as of now, the potential customer's problem is still in trying to decide what word processing system to buy for OS-9 Level 2. It would be a shame to come this close to making a world class word processor that can deliver as much power to the page as MACWRITE and then miss by one little space.

**WINDOW WRITER - \$49.00 + \$6TH**  
**CoCo-3 + OS-9 LVL 2, 128K**  
**(512K & mouse recommended)**

**Available from:**  
**OWL-WARE**  
**P.O. Box 116-A**  
**Mertztown, PA 19539**  
**Order phone 1-800-245-6225**

**Technical help 1-215-839-1917**  
**after 11:AM EST**

## Software Review: Ved - Visual editor by: Bernie E. Besherse

I've had Color Computers for five years and I'll confess I've used CoCoDos for most of my writing, crunching, and data storage. With the coming of the CoCo-3 and Lvl 2 OS-9 I began looking for a good word processor to run in an 80 column window and allow my train of thought to remain intact when skipping around thru large documents and grabbing info from note files (computerized, of course!) Using CoCoDos I would always lose track of my thoughts if I had to save-load-update-save-load. The Lvl-2 and Windows had the potential to end that problem. I'd tried several OS-9 text editors and had been unhappy with all of them. This is not to say they might not have been a good word processor for somebody, just not ME! My current favorite CoCo word processor, TW-128, still did the job with less hassle. Enter Ved.... Ved was written by the author of TW-128. Since the description of features sounded similar, I bought it. Am I ever glad I did!

### DESCRIPTION:

Ved is a text editor. It is NOT a total word processing system. It works in conjunction with a text formatter which will set margins, set line spacing, print headers, number pages, etc. Most formatters use the "dot" command system that has been in use since WordStar. They usually follow the form of a period (.) placed as the first character on a line and followed by the command. There are text formatters available from the

OS-9UG library and commercial vendors. However, if you are satisfied with no margins and 80 characters per line, you can print your work by saving the document to disk and giving a command like

```
list /d0/DOCS/file >/p
```

This command will print a file named "file" held in a directory named "DOCS" that is on a disk in drive /D0. This can be modified by setting a fixed line length with Ved (like 64 char.) then setting your printer's left margin (like 12 spaces) with the proper escape codes before listing the file. This is useful for uploading to a BBS or for general correspondence, but it generally makes the file more difficult to revise at a later date.

### USING Ved

Since Bob van der Poel is the author of the famous patches for TW-64 and author of TW-128, it isn't surprising that the control key combinations are similar to those used in his other works. A big difference is the use of the ALT key as the primary control key instead of the CTRL key. This is quite clumsy and this clumsiness doesn't go away with time. The CTRL key was placed next to the "A" key precisely because its the least clumsy place to reach for it. Another problem I encountered was the lack of ability to use my M200 laptop via tsmom /t2 since my M200 has no ALT key. I hope the choice of CTRL vs ALT is either changed or becomes an option in a Config..Ved program

in the future. My first experiments with Ved were for simple editing of startup files and script files. I then advanced to preparing a poster (with OS-9 CALLIGRAPHER as the formatter) to sell one of my 64K CoCos. I've now graduated to preparing any kind of text file either for use with WINDOW WRITER, CALLI, a text formatter, or to send via MODEM. I expect I'll NEVER get used to using the ALT key but I'll just suffer until someone comes up with a Ved..Patch!

Included on the disk is a "history" file that Bob has been building since he began working on Ved. It should be listed to your printer and studied as a part of the documentation. It will help a great deal in understanding just what's going on when you begin using Ved. The documentation, incidentally, consists of only 10 pages and is very complete, a testimonial to how simple Ved really is. Ved makes use of all the common features of a good text processor. It has good and complete block manipulation procedures. Up to 10 keys can be defined (and saved) as up to 28 character MACROS. All default values can be saved. There is adequate on-line help. It's "auto-indent" feature is supposed to make it a nice environment in which to write structured languages like "C", PASCAL, or assembler. Since Bob is, himself, a prolific assembly language writer and he uses his own products I'll take this claim at face value. I don't write in anything but BASIC but the capability is there for those who have

the ability to use it.

The entire Ved program fits in one 8K memory block! In order to do this it cuts rarely used features and concentrates on the smooth action, functionality, and friendliness of the features it does use. It is so easy to get carried away with adding new features that we lose sight of the fact we just wanted to write a letter home to Mom.

I also found Ved to be FAST! You will NEVER have to wait for the screen to update. Ever! The advanced user will use Ved in one window (since it uses so little memory) while running other programs in other windows. Once the document is prepared the expert will read the file into a more advanced word processor for final touching up.

If you need a good text editor to get started in OS-9, you can't go wrong with Ved. Combine it with a good spell checker and text formatter and you will be on your way! I can truly say that I've never bought so much for so little.

**Requires: 128K + OS-9 Level 2 (512K recommended)**  
**Price: \$24.95 plus \$2.00 S/H**

**Ved is available from:**  
**Bob van der Poel Software**  
**P.O.Box 57 Wynndel, B.C.,**  
**Canada T6M 1E1 ----or----**  
**P.O. Box 355**  
**Porthill, ID U.S.A. 83853**

## Mini-Review: VANTAGE by George Dorner

### Co-resident Editor, Cross Assembler, Symbolic Debugger

For old-timer OS-9ers, this program may be described as "CRASMB and more." CRASMB has been around a long time. It was first available in FLEX (and it still provides an option for FLEX output for binary files!) and was moved to OS-9 early on. It is a cross assembler for "most" 8-bit processors: 6502, 68xx, 80xx/87xx, 1802, 7000, Z8, and Z80, where "xx" can be what you think you need in most cases. If the right processor can't be handled, then Frank Hoffman will provide you with a CPM (CPU Personality Module) to do so for a fee.

In the electronics department of the college where I work, we have used CRASMB on a Gimix Level Two system almost since we got OS-9. When we upgraded to OSK, it was the first program we bought. At that time, CRASMB did not sup-

port the 6811 processor. When we acquired a number of Motorola 68HC11 boards and decided to teach with them, I called Frank about an update, and he kindly provided the copy of VANTAGE under review.

**CRASMB looks the same on OSK as on a 6809 system.** (In fact, the command line parameters follow the old "wrong" convention of using "." for "not.") It supports macros and is tolerant of directives, conventions, and other peculiarities of a number of assemblers. It will produce binary files in several flavors, including OS-9, Motorola S-format, and others (even FLEX!).

**Over the years, Frank has made corrections and has added options dictated by his own experience and that of others.** I think he even corrected one problem which only arose with multiple users which I mentioned to him at

one of the Microware seminars. My guess is that anyone doing 8-bit development will make good use of CRASMB.

But the new and notable features added to CRASMB to produce VANTAGE are what this review should highlight.

**First, there is 'ED', a line-oriented editor** which serves as the host for the VANTAGE co-resident development system. Like CRASMB, this program traces its lineage back to FLEX days. It looks a lot like the TSC line editor which was the one I learned on with an old SWTPC 6800 cassette-based system. The lineage of the editor goes back further to DEC systems and probably beyond. WYSIWYG devotees will regard it as primitive, but old duffers like what they know.

ED has 10 edit buffers, will support 100 macros, will operate from batch files, provides access to SHELL, and generally does what an editor should do.

**The third component of the VANTAGE package is CRACKER, a symbolic Debugger** for 8-bit processors. The version I have is complete for the 68xx processors, the only ones we are much interested in our applications. Other processors supported by CRASMB are marked in the CRACKER documentation as "(in the works)".

**A source program created in ED is cross-assembled by CRASMB** and the binary code generated is placed in a 64K target ram area which is treated like the memory space of your target machine. The symbol table and other data are also retained. CRACKER then may simulate the execution of

**Continued Next Page....**



## Murphy's Law, Still Alive and Well

by Jerry Murphy, K8YUW

Ed Juge, W5TOO, is fond of reminding folks that there are only two kinds of hard drive users: those who have had a crash, and those who soon will. I thought I was prepared for the recent failure of one of my hard drives, but I guessed wrong (again)! Here's what happened, and the extraordinary measures that went into the recovery from it.

After doing a dirsort of my cmds directory, I next tried a dir of that directory, and found it completely unusable. In fact, I couldn't get a directory of ANY part of that particular hard drive. I still don't know why it happened, but I can tell you it was not a pleasant feeling. As fragmented as that particular hard drive had been just before the crash, I decided to re-format it and start over. An epoch backup was not desirable; I had other ideas for how to organize that drive. Fortunately, I had recent backups of the several important directories on 3 1/2" disks. Even more fortunate, I have another system on which I can do the drudge work. Both played a major role in the reconstruction process.

The system that failed consists of a standard 512K Coco3, MPI, Disto Super Controller II, a pair of TEAC DSDD 40-trackers; H0 is a 40 Meg Seagate 251, H1 is a Microscience 20 Meg. The controller is Western Digital, with a Burke & Burke, version 2.3 XT-ROM interface.

A similar, but different, system is another 512K Coco3, MPI, J&M Controller with ADOS3, a pair of Mitsubishi DSDD 80-trackers; H0 is a 40 Meg Seagate 251-1. The

controller is a slightly different Western Digital, with a Burke & Burke version 2.2 XT-ROM interface. Additionally, I have a Tandy 3 1/2" drive I can move from one system to the other. In time, I'll have one permanently installed on each.

Having laid that groundwork introduction, some of you can already anticipate the problems inherent in mixed breed systems such as mine. Murphy's Laws came out of the closet in force! Beware, and prepare!

Unbeknownst to me, the TEAC drive in /d1 is slightly out of alignment or something, because I really messed over my backup booter for the bad system. I was (finally) trying to install the Disto cc3disk module in my backups when I found the error. Make your backups as current as you can, as soon as you can.

The bad disk drive resulted in corruption of the new OS-9 Boot I was trying to install on the newly formatted hard drive, but I didn't know that until much too late. Check your progress as you go, catch errors as they occur.

Eventually, and with some good suggestions from Keven Pittsinger, I was able to format a number of 40-track disks in the other system by using plain vanilla OS-9 disks in the other system, without relying on the hard drive. You \*do\* have some of those for yourself, don't you? Putting one of these freshly formatted disks in an 80-tracker in the other system, I was able to cobble it (with wrong drivers and modules) with a proper hard drive kernel. If I had a supply of good disks with the proper kernel AND bootfile, this would not have been a major problem.

After a LOT of fooling around, I discovered the error with /d1, and started using /d0 in the bad system, and found after a while I could address /H0. Voila! Just move the boot from /d0 to /h0, right? Wrong! Remember those wrong modules I mentioned? Recall that the system I was using to cobble with did NOT have a "H1", but the target system DOES! <mumble!> These and a few other things finally came to mind after loading that hard drive with most of the rest of the files I wanted over there. When I finally got around to installing the proper OS-9 Boot, it wound up fragmented! Make sure any bootfile you install on a freshly formatted disk is proper before doing anything else. I had to re-format the 40 Megger again (grumble), and bootport to it again. Then followed the laborious project of editing the various modules in OS-9 Boot. I know, I did it bass-ackwards!

Using dED, I was able to link to the various modules in OS-9 Boot and plug in correct values. I should have done this when they were still separates in the ramdrive, before merging into the final bootfile. For example, in both D0 and D1, I had to change to \$28 instead of \$50 at offset 18; this changed the 80 tracks to 40 tracks. Also, I had to change the disk speed from 6 ms to 30 ms for the TEACs by changing \$03 to \$00 at offset 14. Later on, I remembered to come back and verify the changes, to put in the proper CRC values <more grumbles>. While I was at it, I verified that Init called on /DD, and then verified that /DD called on the hard drive.

I've used ARC from Carl Kreider

to good, and bad, advantage. Not content to simply ARC the backup disks to the hard drive, I got greedy. After all, there was all that unused room now available, thanks to the reorganization of the drive, and refusal to install certain directories from the earlier version, right? Wrong again, rocket breath! I started getting out all the old disks I could find, and ARCing every cmd file onto the new hard drive so I wouldn't have to search for them. My memory failed me, and it was only later that I discovered old files on disks that should have been deleted a long time ago. You guessed it by now... ARC moved the old files onto the new disk, overwriting the slightly different, but better, versions already present. This is "updating". I'll be more selective in my choice of parameters next time, and I solemnly promise to get rid of bad files as soon as possible so they won't be propagated back onto the hard drive or somewhere else. The problem was NOT with ARC! The problem was with what I was attempting to do with it. Please learn from my mistakes, and prepare for that fateful day when you discover one of my Murphyisms for yourself. Promise to make an adequate number and type of disks to help you recover from the hard disk crash or failure you are certain to have some day. I happen to have a backup system; do you? By the time you read this, I'll have a large set of disks ready for disaster recovery next time (and there WILL likely be a "next time"). I'd suggest you take these lessons to heart, and make YOUR disaster recovery disks now, before YOU get bit by Murphy.

### Vantage, Cont....

your program with the provision of register display, breakpoints, traps, memory protection and control, compilation of certain statistics, and generally those things you want a debugger to do. It's a software debugger, so it won't do everything you want, but it seems quite complete. For FLEX oldtimers it will look something like TSC's DEBUG program with additions. A software interface to an external prom programmer is provided.

**Each of the three programs in the package may be used alone, but the intent is to have them all in memory at the same time.** You may move from one directly to the other and back. If you don't have at least one megabyte of memory, you may have to run the programs one at a time.

I used the VANTAGE package to disassemble some code from an ep-

rom in a 6800 system (CRACKER), to edit the resulting text file (ED), to reassemble it as a 6811 source (CRASMB), and to test out the new 6811 code (CRACKER). It worked pretty much as advertised. The few glitches I ran into did not deter me from the task at hand and will probably be corrected as soon as Frank knows of them.

I had trouble inserting an initial line at the top of a file in ED. A few options in CRACKER didn't work as documented, a pathlist error was not detected in the EPROM routine, and altered TMODE parameters were not returned to their original setting on exit.

This is a dandy teaching device, by the way. The TSIM command will simulate code a step at a time and show a register dump at each step. Breakpoints, traps, and the many statistics developed by CRACKER are also useful in teaching or learning how a specific pro-

cessor and specific lines of code work. "Market forces" being what they are, some of our teachers and students prefer to do program development on their PC clones (you like what you know). But I'm not aware of a comparable environment on the PC which will come close to what this package does. Of course, the cost pretty much restricts its availability to professionals or "serious amateurs".

**I hope to see this package used in our teaching efforts** after some missionary work RE: the benefits of OS-9/68000 and VANTAGE over the alternatives. If you need a software development system for 8-bit machines, contact Lloyd I/O for more information on the VANTAGE package or its components.

**Lloyd I/O, Inc.**  
19535 NE Gilean St.  
P.O. Box 30945  
Portland, OR 97230  
8795

### OS-9 Mac Cont. from page 1

may be required.

So, you see, there is a difference between a port and an emulator.

I will give you more info in the next issue of the MOT.

**GIBBS LABORATORIES**  
**ULTRASCIENCE**  
1824 WILMETTE AVE.  
P.O. BOX 5581  
WILMETTE, IL 60091

**Telephone: 1-312-256-0080**  
**Telex 910-997-0379**  
**FAX 1-312-256-0097**

ps. The Logo on the back cover is a registered trademark of these folks.

**OS-9 Users Group Software Library Order Form**

(For Members of the OS-9 Users Group ONLY)

FROM... Member Number: [ ]

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Telephone Number(s): \_\_\_\_\_

Computer Disk format Type (A, B, C or D - from instructions):

Format Code(s) of floppy disks you can read (1, 2, 3, 4, 5 and/or 6 - from instructions):

Quantity:	Volume # **	Format:		Price:	
		Type:	Code**	Each**	Total:

Total amount for Individual Disks: [ ]

\*\* Note: Information indicated by a "\*\*\*" above should be taken from the current UG Library Volumes listing, as reproduced in the UG newsletter.

Order Archive Set of Entire UG Library below (available as multiple set of disks in format code #6 ONLY):

Quantity:	Volume #:	Format:		Price:	
		Type:	Code:	Each:	Total:
	Archive	A	6	\$100	
	Archive	B	6	\$120	
	Archive	C	6	\$130	
	Archive	D	6	\$110	

Total amount for Archive Sets:  
+ Amount from above:

Total Payment enclosed: [ ]

Please write us if you desperately need any of the above disks in any format other than the ones we currently offer (such as 8" disks, other formats, etc.). We may be able to put you in touch with another volunteer UG member who could do the conversion for you.

Master Card # [ ] Expiration Date [ / / ]  
Visa Card # [ ] Expiration Date [ / / ]  
Signature: \_\_\_\_\_ Todays Date [ / / ]

Make all checks payable to "OS-9 Users Group"

Send disk order to: OS-9 Users Group

**ATTN: DISK ORDER**

1715 East Fowler Ave., Suite R237

Tampa, FL 33612

Please allow 6 weeks before inquiring about your order.

**Application for New or Renewal Membership in the OS-9 Users Group**

RENEWAL membership, please supply your membership number: [ ]

Type of membership applied for: [ ] Corporate [ ] Individual

Name: \_\_\_\_\_

Company Name (for Corporate memberships only): \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Country: \_\_\_\_\_

Telephone Number(s): \_\_\_\_\_

Type of Computer System you are running OS-9 on: \_\_\_\_\_

**Format of OS-9 floppy disks you can read (please check all that apply):**

5.25" [ ] 8" [ ] 3.5" [ ] Single-Sided [ ] Double-Sided [ ]

Single-Density [ ] Double-Density [ ] Hi Density [ ]

Number of tracks per side (35, 40, 80, etc.) [ ]

FORMAT: Microware [ ] CoCo [ ] Atari ST [ ] Mizar [ ]

Other OS-9 Format (please describe): \_\_\_\_\_

ELECTRONIC ADDRESS(S): CompuServe #: [ ]

Delphi: [ ] GEnie: [ ]

BIX: [ ] UseNet: [ ]

Would you be willing to volunteer your time and effort to work on one of the OS-9 Users Group's committees or run for an office? If so, please describe the capacity in which you would like to get involved:

[ ] Check here if you DO NOT want your name and address printed in a member directory.  
[ ] Check here if you DO NOT want your telephone number given out to other OS-9 Users.

Number of years membership you are enclosing payment for: [ ]

INDIVIDUAL MEMBERSHIPS IN THE OS-9 USERS GROUP ARE \$25.00 PER YEAR. (overseas \$30 US). CORPORATE (COMPANY) MEMBERSHIPS ARE \$150. (overseas \$160 US). PER YEAR

(sorry, but the Library archive set is presently only available on 5.25" ds dd 80 track or 3.5" ds OS-9/ST format disks)

(The OS-9 Users Group is a non-profit organization, any other charitable donations will also be gladly accepted.)

Total Payment enclosed: \$ [ ]

Method of payment: [ ] Check Number [ ]

Master Card # [ ] Expiration Date [ / / ]

Visa Card # [ ] Expiration Date [ / / ]

Signature: \_\_\_\_\_ Date [ / / ]

Make all checks payable to "OS-9 Users Group"

Send application to:  
OS-9 Users Group**ATTN: MEMBERSHIP**

1715 East Fowler Ave., Suite R237

Tampa, FL 33612

Please allow 4 to 6 weeks before inquiring about your application.

## PLEASE READ CAREFULLY BEFORE SENDING IN YOUR DISK ORDER!!

1) Note what type of computer system you are running OS-9 on. Theoretically, all OS-9 systems should be able to read one or more of the following format disks:

- Type "A": Standard Microware Format (track 0 is single density and 10 sectors per track, all other tracks are 16 sectors long; 0 sector offset)
- Type "B": Tandy Color Computer Format (all tracks are double density and 18 sectors long; 1 sector offset)
- Type "C": Atari 3.5" Format (Micro-Floppy 3.5" disks, 80 tracks, all tracks double density and 16 sectors per track; 0 sector offset)
- Type "D": OS-9 Users Group format (all tracks are double density and 16 sectors long; 0 sector offset)  
This format is sometimes referred to as "Mizar format".

2) Determine what type of floppy disk drives you have on your OS-9 computer system. The available choices are...

Type "A"		Type "B"	
Code	Std. OS-9 Format: (5.25")	Code	CoCo OS-9 Format: (5.25")
1	35 track ss sd	35	track ss dd
2	35 track ds sd	35	track ss dd
3	40 track ss sd	35	track ss dd
4	40 track ds sd	40	track ss dd
5	40 track ds dd	40	track ss dd
6	80 track ds dd	80	track ds dd

Type "C"		Type "D"	
Code	Atari OS-9 Format: (3.5")	Code	CoCo OS-9 Format: (5.25")
1	80 track ss dd	40	track ss dd
2	80 track ss dd	40	track ss dd
3	80 track ss dd	40	track ss dd
4	80 track ss dd	40	track ss dd
5	80 track ss dd	40	track ss dd
6	80 track ds dd	80	track ds dd

KEY: ss=single sided, ds=double sided,  
sd=single density, dd=double density

For reference, it should be noted that some OS-9 UG media format codes equate to certain official Microware media format codes. In particular, the following equivalences are noted:

Media Format Codes		OS-9 Users Group	
Microware Systems			
5403	...is equivalent to...	A5	
5803	...is equivalent to...	A6	
3807	...is equivalent to...	C6	
5407	...is equivalent to...	D5	
5807	...is equivalent to...	D6	

Also note that the following Microware standard disk formats are also available by special request. Please do not order them unless it is the ONLY format you can use on your computer:

Microware Systems		OS-9 Users Group	
3803	...is equivalent to...	C6a	
38W7	...is equivalent to...	C6b	
58W7	...is equivalent to...	D6b	

Choose the OS-9 Users Group format codes above which represent the formats of disks you know you are able to read. For example, most TRS-80 Color Computers can only read formats #B1, #B2, #B3 and (sometimes) #B4 above. This indicates that a person with a stock Color Computer should be careful to only order Library volumes with these format codes. DO NOT ORDER LIBRARY DISKS WITH FORMAT CODES OTHER THAN THE ONES WHICH YOU KNOW YOUR SYSTEM IS ABLE TO READ!

3) Choose the Volume Numbers of the individual disks you would like to order, carefully noting the format code of each volume you would like to order. IF THE FORMAT CODE OF THE DISK YOU WOULD LIKE TO ORDER DOES NOT MATCH THE CODE OF A FORMAT YOUR COMPUTER SYSTEM IS ABLE TO READ (as calculated in step 2 above), YOU SHOULD NOT ORDER THAT VOLUME!! Yes, this means that it is possible that a disk you want may not be available in a format you can read. This is sometimes necessary when an individual program on a disk is too big to fit on a small format disk. In particular, it should be noted that Volumes #2, and #49 cannot be used on most TRS-80 Color Computers. Care should also be taken before ordering Volumes #6, #19, #39, #47, #55 and #56 (and any others whose format code is 4 or greater). Also note that the multi-disk "Archive Set" of the entire UG Library is only available on 80 track ds dd disks (format code 6) ONLY and can therefore not be used on a stock TRS-80 Color Computer.

4) Prices for individual volumes are as follows (as of April, 1988):

Types "A", "B" or "D"		Type "C"	
	(5.25")		(3.5")
1	\$6.00 each	\$8.00 each	
2	\$6.00 each	\$8.00 each	
3	\$6.00 each	\$8.00 each	
4	\$6.00 each	\$8.00 each	
5	\$6.00 each	\$8.00 each	
6	\$10.00 each	\$10.00 each	

NOTE: PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE! orders received 30 days or more after an official price change (as announced in the MOTD newsletter) are subject to the new price schedule. Orders sent with insufficient payment will be returned unprocessed unless specific instructions to do otherwise are included with the order.

5) Fill out the order blank reproduced in this issue (or facsimile thereof) with all of the necessary information.

## OS-9 Users Group Software Library

No.	Done?	Title:	Format:
0.09	Y	New Member Intro	3*
1.01	Y	Spelling Checker (Improved; 6809 & 68K)	4
2.02	Y	Spelling Dictionary (102,681 words, 6809 & 68K)	5
3.01	Y	Word Processing Utils	1*
4.01	Y	Programming Utilities	1*
5.00	Y	File Processing Utils	1*
6.02	Y	Adventure Game (source)	4
7.02	Y	Adventure Game (object)	3
8.00	Y	General Interest (demo, games, finance)	1
9.00	Y	C Programmer's Tool Kit	3
10.00	Y	Math & Electronics	1
11.00	Y	Word Processing Utils	(disk #2) 1
12.00	Y	Programming Utilities	(disk #2) 1
13.00	Y	File Processing Utils	(disk #2) 1
14.03	Y	File Maintenance	1*
15.01	Y	Communication	1
16.00	Y	Hardware Customizations	1
17.00	Y	Basic09 Programmer's Tool Kit	1
18.00	Y	System Utilities	1
19.01	Y	Languages 1: XLisp (source)	4
20.00	Y	File Maintenance	1
21.00	Y	XLisp (object)	(disk #2) 1*
22.00	Y	Programming Utilities	(disk #3) 1
23.00	Y	File Processing Utils	(disk #3) 1
24.01	Y	General Interest	(disk #2) 1
25.02	Y	Word Processing Utils	(disk #3) 1
26.01	Y	C Language Math Library (6809 only)	3
27.01	N	<undefined>	
28.00	Y	68K Utilities	1
29.00	Y	File Maintenance	(disk #3) 1
30.00	Y	File Processing Utils	(disk #4) 1
31.00	Y	Hardware Customizations	(disk #2) 1
32.00	Y	Hardware Customizations	(disk #3) 1
33.00	Y	System Utilities	(disk #2) 1
34.00	Y	Hardware Customizations	(disk #4) 1
35.00	Y	System Utilities	(disk #3) 1
36.00	Y	General Interest	(disk #3) 1
37.01	Y	Communication (6809 & 68K Kermit)	(disk #2) 2
38.00	Y	Programming Utilities	(disk #4) 1
39.00	Y	Communication (FreeWare)	(disk #3) 4
40.00	Y	System Utilities	(disk #4) 1
41.00	Y	Programming Utilities	(disk #5) 1
42.00	Y	Coco Graphics	1
43.00	Y	System Utilities	(disk #5) 1
44.01	Y	Communication (Smod8)	(disk #4) 1
45.00	Y	Coco Graphics	(disk #2) 2
46.00	Y	Text Processing Utils (Sled)	2
47.00	Y	Text Processing Utils (68K Runoff)	(disk #2) 4
48.01	N	<undefined>	
49.00	Y	Text Processing Utils (MicroEMACS)	(disk #3) 5
50.00	Y	68K Utilities	(disk #2) 1
51.00	Y	68K Utilities	(disk #3) 1
52.01	Y	Math & Electronics	(disk #2) 1
53.00	Y	68K Utilities	(disk #4) 1
54.00	Y	File Maintenance	(disk #4) 1
55.00	Y	Text Processing Utils (QED for L2)	(disk #4) 4
56.00	Y	Data Base Management (SDB for L2)	4

1) All of the above volumes are available in Microware standard, Atari ST 3.5", TRS-80 Color Computer and OS-9 UG/Mizar formats. When ordering, be sure to specify only formats that you KNOW you can read on your computer! Please remember that some volumes of the Library will not fit on all formats of disk. If you do not specify the format you desire, you will be shipped either OS-9 UG standard 5.25" format (i.e., "TYPE "D" or the format we have on file or you (as specified by you on your membership/renewal application). Please note that 8" disks are no longer available directly from the UG.

2) Volumes which are not mentioned above, or are marked with a "N" in the "Done?" column, are NOT AVAILABLE at this time. Orders for unavailable volumes will not be processed.

3) Send orders to the main UG address, making sure the envelope is clearly marked "ATTN: DISK ORDERS". Orders marked anything other than "DISK ORDERS" may be delayed an additional 4 to 6 weeks. DO NOT ADDRESS YOUR ORDER (OR CORRESPONDENCE ABOUT YOUR ORDER) TO "LIBRARY" OR "LIBRARIAN".

4) The ENTIRE OS-9 UG Library is presently available in a special multiple set of 80 track (96 tpi) double-sided double-density OS-9 format disks (UG format code "#6" ONLY). Please note that this set contains all software that is presently contained in the UG Library EXCEPT the spelling dictionary, which is ONLY available on the individual Volume #2 library disk.

Orders will be accepted from MEMBERS ONLY.

## Important Note!

There are two new volumes of software that have not yet made it into the listing above. They are both for the Color Computer 3. Level II. One is the **CoCo Games Graph**. the other is called **CoCo Graphics**. I can't tell you why, but ORDER them NOW! All CoCo users will want these disks, and there will be code there that you cannot get elsewhere.

While I'm on a soapbox here, I'd like to remind readers that the UG is dependent on donations as well as dues.

We have a catch 22 in the MOTD. We need advertisers (SS) in order to publish regularly, but businesses don't want to place ads unless we publish to a schedule.

In lieu of ads, businesses and users can send donations in any amount direct to the MOTD. (as always, payable to the OS-9 Users Group). The donors name (and business address), will be placed in a special section of the MOTD reserved for UG supporters. Users will then know who our best friends are.

**SUBMISSIONS**

Articles, letters and advertisements will be accepted in the following formats:

VEF, GIF, MACPAINT, MACDRAW, CANVAS, TIFF, PICT, ThunderScan, MS WORD-WORKS, MACDRAFT, READY SET GO!, or Plain text files. ON ANY OF THE FOLLOWING: 5.25" ALL FORMATS EXCEPT 96TPI, 3.5" COCO-ATARI, 3.5" MAC 400K OR 800K, MS-DOS 5" 360k or 3" 720k. OR VIA E-MAIL TO Me ON GENIE (B.BRADY) OR DELPHI (OS9UGED).

You can send FAX if you like, my FAX number is 1-301-741-1917 24 hrs. (I receive FAX via a FAX modem direct to disk, if you send direct from disk, the quality is excellent, otherwise it depends on the quality of your FAX machine. (use 'fine' mode)

NO PAGEMAKER, or Post Script please.

Please include complete address, user #, and phone number on all submissions. Also tell me what you want us to do with whatever you are sending. Article, Ad, or Letter to the Editor, etc.

Advertise in the OS-9 Users Group Newsletter! It goes to over 20 countries!

Send your camera-ready, or electronic ad copy and a check for payment to the OS-9 Users Group so that it is received no later than the 15th of the month prior to publication month.



Advertising rates are as follows (as of August, 1989):

full page \$200, half page, \$125, quarter page \$65, eighth page, \$25

non-electronic ads (requiring paste-up) add \$200 full page, \$50 all other sizes.

Each member is entitled to place reasonable classified ads free.

**The MOTD** is published monthly, or at other intervals as required, by the OS9 Users Group Suite R-237, 1715 East Fowler Ave. Tampa FL 33612.

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Make checks payable to:  
"The OS9 Users Group".

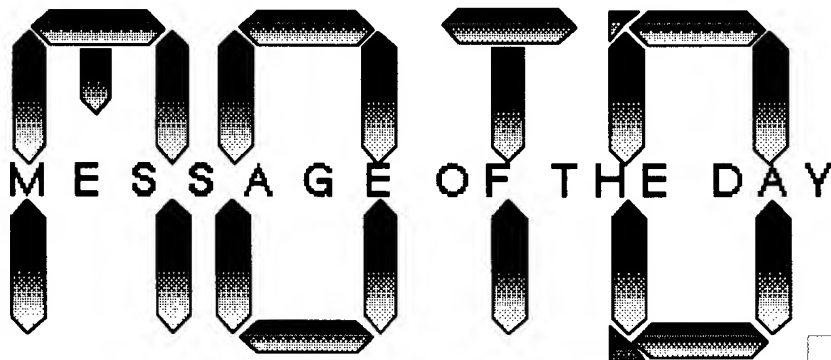
Distribution is Free to members of the OS9 Users Group. Non-Members may subscribe by sending a letter ATTN Membership, at the address above, and by paying a \$25.00 annual fee.

The OS9 Users Group is not affiliated with any other organization.

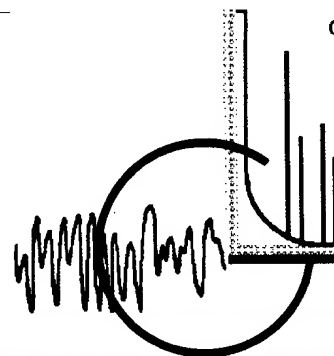
**See Page 11 for important news of  
interest to all Users!**

*Thanks Jane! Thanks Lar-eeeeee!*

## The International Newsletter of the OS-9 Users Group March/April 1989



BULK RATE  
U.S. POSTAGE PAID  
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PERMIT #9



**News From Gibbs Laboratories!**

Address Correction Requested to the TAMPA address below please